

What is claimed is:

1. A method of constructing a color gamut, comprising the
5 steps of:

providing a plurality of color data points;

constructing a convex hull in an additive color space
based on the color data points;

transforming the convex hull into a corresponding solid
10 object in a psychometric color space;

presenting the solid object as a color gamut
corresponding to the color data points.

2. A method as in claim 1, wherein the step of
15 presenting includes displaying the color gamut as a first
three-dimensional object on a display for visualization.

3. A method as in claim 2, wherein the step of
displaying includes displaying a second color gamut as a
20 second three-dimensional object on the display together with
the first three-dimensional object for comparing said color
gamuts.

4. A method as in claim 2, wherein the step of
25 displaying displays the three-dimensional object as colored
according to colors of the color gamut.

5. A method as in claim 1, wherein the step of constructing includes generating surface points on faces of the convex hull, and wherein the step of transforming transforms the surface points into corresponding surface points for defining curved faces of the color gamut.

6. A method as in claim 5, wherein the step of generating generates the surface points by subdividing faces of the convex hull into smaller faces.

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7. A method as in claim 1, further including the step of calculating a volume of the color gamut.

8. A method as in claim 1, wherein the step of providing includes measuring printed color samples to generate the color data points.

9. A method as in claim 8, wherein the printed color samples are printed using at least one ink color in addition to yellow, cyan, magenta, and black.

10. A method as in claim 9, wherein the printed color samples are printed using a 6-color ink system.

11. A method as in claim 1, wherein the additive color space is the CIE XYZ color space.

12. A method as in claim 1, wherein the psychometric color space is the CIE Lab color space.

13. A computer readable medium having computer readable instructions for performing steps to construct a color gamut, comprising:

receiving a plurality of color data points;

constructing a convex hull in an additive color space based on the color data points;

transforming the convex hull into a corresponding solid object in a psychometric color space;

presenting the solid object as a color gamut corresponding to the color data points.

14. A computer-readable medium as in claim 13, wherein the step of presenting includes displaying the color gamut as a first three-dimensional object on a display for visualization.

15. A computer-readable medium as in claim 14, wherein the step of displaying includes displaying a second color gamut as a second three-dimensional object on the display together with the first three-dimensional object for comparing said color gamuts.

16. A computer-readable medium as in claim 14, wherein the step of displaying displays the three-dimensional object as colored according to colors of the color gamut.

5 17. A computer-readable medium as in claim 13, having further computer-executable instructions for performing the step of calculating a volume of the color gamut.

10 18. A computer-readable medium as in claim 13, wherein the color data points are generated by measuring printed color samples printed using at least one ink color in addition to yellow, cyan, magenta, and black.

15 19. A computer-readable medium as in claim 13, wherein the additive color space is the CIE XYZ color space.

20. A computer-readable medium as in claim 13, wherein the psychometric color space is the CIE Lab color space.